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CLAIMS

1. A high frequency dielectric ceramics composition constituted by combining  $(\text{Zn}_{1-x}\text{M}_x)\text{TiO}_3$  and  $y\text{TiO}_2$  satisfies the conditions of:

5 wherein M is Mg, Co or Ni,

'x' is  $0 \leq x \leq 0.6$  in case of Mg and 'x' is  $0 \leq x \leq 1$  in case of Co, and  $0 \leq x \leq 1$  in case of Ni, and

$0 \leq y \leq 0.8$ .

10 2. A high frequency dielectric ceramics composition preparation method in which material powder of ZnO, MO (in this respect, MO is MgO, CoO or NiO) and  $\text{TiO}_2$  is weighed according to a composition range of  $(\text{Zn}_{1-x}\text{M}_x)\text{TiO}_3$  and  $y\text{TiO}_2$  (M is one of Mg, Co and Ni, x is  $0 \leq x \leq 0.6$  in case of Mg, x is  $0 \leq x \leq 1$  in case of Co, x is  $0 \leq x \leq 1$  in case of Ni, and y is  $0 \leq y \leq 0.8$ ), mixed and dried,

15 calcined at a temperature of  $850 \sim 950^\circ\text{C}$ ,

the calcined powder is crushed,

the crushed powder is shaped,

the shaped body is fired at a temperature of  $925 \sim 1100^\circ\text{C}$ , and

( $\text{Zn}_{1-x}\text{M}_x$ ) $\text{TiO}_3$  is calcined at a temperature corresponding to a region  
20 (region II) of below a phase dissociation temperature as shown in Figure 2 to obtain  $(\text{Zn}_{1-x}\text{M}_x)\text{TiO}_3$  (M is Mg, Co or Ni) of a single phase of rhombohedral/hexagonal crystal.

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3. The method of claim 2, wherein the shaped body is made in a manner that an aqueous solution adding a PVA binder is sprayed onto the crushed powder to make a granule, to which a pressure is applied.

5 4. The method of claim 3, further comprises a step for maintaining the shaped body at a temperature of 300–500°C for a predetermined time and removing the binder.

10 5. The method of claim 2, wherein  $(Zn_{1-x}M_x)TiO_3$  is first calcined and  $yTiO_2$  ( $0 \leq y \leq 0.8$ ) is added to  $(Zn_{1-x}M_x)TiO_3$  and then sintered.

6. The method of claim 2, wherein  $(Zn_{1-x}M_x)TiO_3$  and  $yTiO_2$  are sintered at the same time and sintered.

15 7. The method of claim 2, wherein  $TiO_2$  is anatase or rutile.

8. A high frequency dielectric ceramics composition constituted from combination of  $(Zn_{1-a}Mg_{1-b}Co_{1-c}Ni_{1-d})TiO_3$  and  $yTiO_2$  ( $0 \leq a \leq 1$ ,  $0 \leq b \leq 1$ ,  $0 \leq c \leq 1$ ,  $0 \leq d \leq 1$ ), and  $0 \leq y \leq 0.8$ .

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9. Various high frequency devices such as a stacked chip capacitor, a stacked chip filter, a stacked chip capacitor/inductor composite device and a module, a low-temperature sintered substrate, a resonator and a filter or a

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ceramic antenna, are fabricated by using the dielectric composition of claim 1.

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